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Workman Nydegger 1000 Eagle Gate Tower 60 East South Temple Salt Lake City, UT 84111			EXAMINER SNYDER, STEVEN G	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/507,397

Applicant(s)

HAULIN ET AL.

Examiner

STEVEN G. SNYDER

Art Unit

2184

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10 and 12-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10,12-23 and 25-29 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This is in response to communication filed on April 29, 2010.

Status of Claims

Claims 1, 2, 4 – 10, and 12 – 29 are pending, of which claims 1, 15, and 28 are in independent form.

Claim Objections

1. **Claim 2** is objected to because of the following informalities: Claim 2 states "adapted to allow at least one of updating of data in the first digital storage unit and read out of data." The two verbs ('updating' and 'read') are not in agreement. The examiner suggests changing this claim to read "adapted to allow at least one of updating of data in the first digital storage unit and reading out of data." Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1 – 2, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender, U.S. Patent Application 2002/0041568 (hereinafter**

referred to as Bender) in view of Rajaram et al., U.S. Patent Application 2003/0033599 (hereinafter referred to as Rajaram).

Referring to claim 1, Bender discloses "A communication module" (Fig. 6A, access point 220A) "adapted to be removably connected to a node in a communications network" (Fig. 6A, access point 220A connected to Ethernet network 280C) "and adapted to perform a primary function" ([0042], access points and routers create various connections), the communication module comprising: "a network interface" (Fig. 6A, Ethernet network 280C), "wherein the communication module performs the primary function over the network via the network interface" ([0042], access points and routers create various connections using the Ethernet network), "the primary function including receipt of incoming network traffic via the network interface and performance of switching and/or routing operations on the received network traffic" ([0042], access points using routers for routing packets from one interface to one or more interfaces).

Bender discloses routers updating their routing tables ([0042]). While Bender does not appear to explicitly disclose "a first digital storage unit adapted to hold content pertaining to accomplishment of the primary function," it is understood by one of ordinary skill in the art that some sort of memory is utilized to hold said routing tables. Therefore, Bender's routers inherently contain a storage unit.

Bender's description of the routers updating their routing tables ([0042]) meets the limitation of enabling "the content of the first digital storage unit to be modified to change the primary function of the communication module."

Bender does not appear to explicitly disclose the communication module including "a secondary function" nor "a bi-directional interface, wherein the bi-directional interface comprises at least one optical interface and is adapted to provide a local wireless access to the first digital storage unit, the local wireless access being provided independently of the primary function, wherein the local wireless access enables the content of the first digital storage unit to be modified to change the primary function of the communication module."

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]). Rajaram further discloses how the data can be received via a bi-directional interface (Fig. 1, 150), which can be an infrared interface ([0076]) and the received or updated code is stored in the device ([0068]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since wireless connections are an obvious variant of wired connections.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the

teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made without the need to find or create a wired connection (much like walk-up printing).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

As per claim 2, Bender does not appear to explicitly disclose "the bi-directional interface is adapted to allow at least one of updating of data in the first digital storage unit and read out of data from the first digital storage unit."

However, Rajaram accessing system data before creating updated system data (Fig. 11, 1106a and 1106c).

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile

communication method (infrared, as taught by Rajaram) so that updates can be made without the need to find or create a wired connection (much like walk-up printing).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

Referring to claim 28, Bender discloses "A communication module" (Fig. 6A, access point 220A) "adapted to be removably connected to a node in a communications network" (Fig. 6A, access point 220A connected to Ethernet network 280C) "and adapted to perform a primary function" ([0042], access points and routers create various connections), the communication module comprising: "a network interface" (Fig. 6A, Ethernet network 280C), "wherein the communication module performs the primary function over the network via the network interface" ([0042], access points and routers create various connections using the Ethernet network).

Bender discloses routers updating their routing tables ([0042]). While Bender does not appear to explicitly disclose "a first digital storage unit adapted to hold content pertaining to accomplishment of the primary function," it is understood by one of ordinary skill in the art that some sort of memory is utilized to hold said routing tables. Therefore, Bender's routers inherently contain a storage unit.

Bender's description of the routers updating their routing tables ([0042]) meets the limitation of enabling "the content of the first digital storage unit to be modified to change the primary function of the communication module."

Bender does not appear to explicitly disclose the communication module including "a secondary function" nor "a bi-directional interface, wherein the bi-directional interface comprises at least one optical interface and is adapted to provide a local wireless access to the first digital storage unit, the local wireless access being provided independently of the primary function, wherein the local wireless access enables the content of the first digital storage unit to be modified to change software and/or firmware used to accomplish the primary function of the communication module."

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since wireless connections are an obvious variant of wired connections.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made without the need to find or create a wired connection (much like walk-up printing).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

4. Claims 15 – 18, 22, 23, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, further in view of Kefford et al., U.S. Patent Application 2003/0204726 (hereinafter referred to as Kefford), and further in view of Sabourin et al., U.S. Patent 5,903,545 (hereinafter referred to as Sabourin).

Referring to claim 15, Bender discloses “A method of communicating with a communication module” (Fig. 6A, access point 220A) “being removably connected to a node in a communications network” (Fig. 6A, access point 220A connected to Ethernet network 280C) “the module being adapted to perform a primary function” ([0042], access points and routers create various connections).

Bender also discloses “wherein the primary function includes receiving incoming network traffic via the network interface and performing switching and/or routing operations on the received network traffic” ([0042], access points and routers create

various connections using the Ethernet network and access points using routers for routing packets from one interface to one or more interfaces).

Bender's description of the routers updating their routing tables ([0042]) meets the limitation of "data including information pertaining to accomplishment of the primary function."

Bender does not appear to explicitly disclose the communication module being adapted to perform "a secondary function" nor "exchanging data between the module and the portable software carrier unit via a bi-directional optical interface" nor "the data including information pertaining to accomplishment of the primary function and being exchanged independently of the primary function."

However, Rajaram discloses updating software (secondary function) in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via a bi-directional interface (Fig. 1, 150), which can be an infrared interface ([0076]) and the received or updated code is stored in the device ([0068]). Rajaram also discloses flowing from replacing of system data to the executing of system data (Fig. 11). Since Rajaram discloses receiving code updates and standard communication tasks, this is considered to be equivalent to the claimed receiving of data independently of the primary function.

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since wireless connections are an obvious variant of wired connections.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made without the need to find or create a wired connection (much like walk-up printing).

Neither Bender nor Rajaram appears to explicitly disclose "receiving an access request signal in the module from a portable software carrier unit; receiving an authorization signal from an authorization unit, the authorization signal identifying the module and instructing the module to grant access to the portable software carrier unit."

However, Kefford discloses a network of wireless device communication (Fig. 1 and [0026]). Kefford further discloses utilizing an authorization method for allowing or denying access to requested information (Figs. 4, 5A, and 5B). Kefford's method involves "receiving an access request signal in the module" (Fig. 4, request 502), "receiving an authorization signal from an authorization unit" (Fig. 4, authentication result 524 from authentication server 408), "the authorization signal identifying the module and instructing the module to grant access to the portable software carrier unit" ([0048], replying to request if authentication result is positive, and [0043], the user

attempting to gain access is utilizing a mobile device identified by the authentication server).

Bender, Rajaram, and Kefford are analogous art because they are from the same field of endeavor, which is communication systems utilizing wireless connections to transfer data.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Kefford before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Kefford so that the accessing of information would be provided only after a user and/or device is authenticated.

The motivation for doing so would have been to provide a means for transferring potentially sensitive information without exposing the information to a user who is not entitled to the information (as stated by Kefford in [0004]).

Further, neither Bender nor Rajaram nor Kefford appears to explicitly disclose "exchanging data between the module and the portable software carrier unit via a bi-directional optical interface of the module while the module performs the primary function over the network via a network interface of the module."

However, Sabourin discloses a routing apparatus that is capable of updating routing tables during normal operations (Fig. 5, 250).

Bender, Rajaram, Kefford, and Sabourin are analogous art because they are from the same field of endeavor, which is networked communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, Kefford, and Sabourin before him or her, to modify the teachings of Bender, Rajaram, and Kefford to include the teachings of Sabourin so that the routing tables can be updated while the normal operations are being executed.

The motivation for doing so would have been to provide a means for avoiding downtime of the communication system during a routing table update.

Therefore, it would have been obvious to combine Sabourin with Bender, Rajaram, and Kefford to obtain the invention as specified in the instant claim.

As per claim 16, neither Bender nor Rajaram appears to explicitly disclose “the authorization signal includes an address field which designates a specific module position within the node.”

However, Kefford discloses utilizing identifiers, such as IP addresses ([0032]) and associating identifiers and mobile devices via tables, lists, arrays, etc. ([0033]).

Therefore, while neither Bender nor Rajaram nor Kefford nor Sabourin appears to explicitly disclose a specific module position within the node, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize Kefford's method in a modularized system (such as Bender's multiple controllers 420 and 430 of modem pool controller 320) so that each module can be assigned an address.

The motivation for doing so would have been to provide a means for transferring potentially sensitive information without exposing the information to a user who is not entitled to the information (as stated by Kefford in [0004]).

Further, as claim 16 depends on claim 15, the motivation to combine Bender, Rajaram, Kefford, and Sabourin applies to claim 16 as well.

As per claim 17, neither Bender nor Rajaram appears to explicitly disclose “the authorization signal includes a unique identifier of the module.”

However, Kefford discloses the user attempting to gain access is utilizing a mobile device identified by the authentication server ([0043]) and replying to a request if authentication result is positive ([0048]). Further Kefford discloses utilizing user IDs (Fig. 3).

Bender, Rajaram, and Kefford are analogous art because they are from the same field of endeavor, which is communication systems utilizing wireless connections to transfer data.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Kefford before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Kefford so that the accessing of information would be provided only after a user and/or device is authenticated.

The motivation for doing so would have been to provide a means for transferring potentially sensitive information without exposing the information to a user who is not entitled to the information (as stated by Kefford in [0004]).

Further, as claim 17 depends on claim 15, the motivation to combine Bender, Rajaram, Kefford, and Sabourin applies to claim 17 as well.

As per claim 18, as stated above, Bender discloses updating routing tables ([0042]). Also, as stated above, Rajaram further discloses how the data can be received via a bi-directional interface (Fig. 1, 150), which can be an infrared interface ([0076]). Therefore, as stated above, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize Rajaram's bi-directional interface for updating the routing tables of Bender.

Neither Bender nor Rajaram appears to explicitly disclose "the access request signal comprises a pass phrase that is received via the bi-directional optical interface."

However, Kefford discloses utilizing user IDs and PINs for authorization (Fig. 3 and [0043]). This PIN is considered equivalent to the claimed pass phrase. Also, Kefford discloses blocking access to the first digital storage unit if the user ID and/or PIN do not match ([0048]).

Bender, Rajaram, and Kefford are analogous art because they are from the same field of endeavor, which is communication systems utilizing wireless connections to transfer data.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Kefford before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Kefford so that the accessing of information would be provided only after a user and/or device is authenticated.

The motivation for doing so would have been to provide a means for transferring potentially sensitive information without exposing the information to a user who is not entitled to the information (as stated by Kefford in [0004]).

Further, as claim 18 depends on claim 15, the motivation to combine Bender, Rajaram, Kefford, and Sabourin applies to claim 18 as well.

As per claim 22, Bender's description of the routers updating their routing tables ([0042]) meets the limitation of enabling "updating of the contents of a first digital storage unit in the module."

Bender does not appear to explicitly disclose "updating of the contents of a first digital storage unit in the module *via the bi-directional optical interface*."

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the

invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made without the need to find or create a wired connection (much like walk-up printing).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

Further, as claim 22 depends on claim 15, the motivation to combine Bender, Rajaram, Kefford, and Sabourin applies to claim 22 as well.

As per claim 23, Bender's description of the routers updating their routing tables ([0042]) meets the limitation of enabling "altering at least one parameter in the first digital storage unit pertaining to the accomplishment of the primary function."

Bender does not appear to explicitly disclose "receiving at least one control command via the bi-directional interface" and altering the parameter "on the basis of the at least one control command."

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]). Rajaram further discloses a read-write driver symbol library causing overwriting of memory sections ([0038]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made without the need to find or create a wired connection (much like walk-up printing).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

Further, as claim 23 depends on claim 22, which depends on claim 15, the motivation to combine Bender, Rajaram, Kefford, and Sabourin applies to claim 23 as well.

As per claim 25, Bender does not appear to explicitly disclose "reading out data from a first digital storage unit in the module via the bi-directional optical interface."

However, Rajaram discloses an infrared update method utilizing a read-write driver and read-write data ([0038]).

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made without the need to find or create a wired connection (much like walk-up printing).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

Further, as claim 25 depends on claim 15, the motivation to combine Bender, Rajaram, Kefford, and Sabourin applies to claim 25 as well.

As per claim 27, Bender discloses routers enabling connections between access points and services (Fig. 2). Bender also discloses routers updating their routing tables ([0042]). Therefore, it can be seen that a first primary function of a router may be to route connections of an access point to a DHCP server 276 (Fig. 2). Further, through updating of a routing table, it can be seen that a second primary function of a router may be to route connections of an access point to a Network Access Server NAS 271 (Fig. 2). Therefore the updating of a routing table can "change the first primary function to a second primary function."

Bender does not appear to explicitly disclose updating the contents of the first digital storage unit "via the bi-directional optical interface."

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made without the need to find or create a wired connection (much like walk-up printing).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

Further, as claim 27 depends on claim 22, which depends on claim 15, the motivation to combine Bender, Rajaram, Kefford, and Sabourin applies to claim 27 as well.

Claims 4 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, as applied to claims 1 – 2 and 28 above, and further in view of Picazo, Jr. et al., U.S. Patent 6,006,275 (hereinafter referred to as Picazo).

As per claim 4, as stated above, Bender does not appear to explicitly disclose a bi-directional optical interface.

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since wireless connections are an obvious variant of wired connections.

Further, neither Bender nor Rajaram appears to explicitly disclose "the first digital storage unit comprises a first register including status data with respect to the primary function, and the bi-directional interface is adapted to: receive a request for status information; and transmit a status report on basis of the request, the status report including data from the first register which pertains to at least one parameter of the primary function."

However, Picazo discloses routers including status registers as well as routers supplying status information upon request from network management processes (column 2 line 54 – column 3 line 5).

Bender, Rajaram, and Picazo are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Picazo before him or her, to

modify the teachings of Bender and Rajaram to include the teachings of Picazo so that the status of the router would be available through an infrared connection.

The motivation for doing so would have been to provide a means for learning a router's status, therefore providing information pertaining to when to start an update of routing information.

Therefore, it would have been obvious to combine Picazo with Bender and Rajaram to obtain the invention as specified in the instant claim.

As per claim 5, as stated above, while Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface, such as the interface of Rajaram, on the routers since wireless connections are an obvious variant of wired connections.

Rajaram further discloses a read-write driver symbol library causing overwriting of memory sections ([0038]).

This is considered equivalent to applicant's "the bi-directional interface is adapted to receive at least one control command."

Further, neither Bender nor Rajaram appears to explicitly disclose "the first digital storage unit comprises a second and volatile register adapted to store information pertaining to the accomplishment of the primary function."

However, Picazo discloses routers including status registers as well as routers supplying status information upon request from network management processes (column 2 line 54 – column 3 line 5).

Bender, Rajaram, and Picazo are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Picazo before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Picazo so that the status of the router would be available through an infrared connection.

The motivation for doing so would have been to provide a means for learning a router's status, therefore providing information pertaining to when to start an update of routing information.

Also, neither Bender nor Rajaram appears to explicitly disclose "the bi-directional interface is adapted to alter at least one parameter in the second register pertaining to the accomplishment of the primary function on basis of the at least one control command."

However, in view of the teachings of Bender, Rajaram, and Picazo, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a router's status information in order to determine a desirable moment to start updating routing information.

The motivation for this can be seen in Rajaram [0038], where it is stated that the device may be unable to perform standard functionality while sending update data.

Therefore, it would have been obvious to combine Picazo with Bender and Rajaram to obtain the invention as specified in the instant claim.

As per claim 6, Rajaram discloses “the communication module comprises a second digital storage unit adapted to temporarily store information pertaining to the accomplishment of the primary function” (Fig. 1, volatile memory and a non-volatile memory both holding information pertaining to functionality).

The remaining limitations of this claim are equivalent to the limitations of claim 5, with the exception of “a third register.” Therefore, the rejection of claim 5 applies to claim 6 as well. Further, it would have been obvious to one of ordinary skill at the time of the invention to duplicate the status registers disclosed by Picazo in order to accommodate any amount of status data pertaining to the functionality of the device.

As per claim 7, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]). Further, Rajaram discloses “resetting the communication module” ([0038]). This is considered to be equivalent to applicant's “the communication module is adapted to, after reset of the module, alter the contents of the third register on basis of the at least one piece of information in the second digital storage unit.”

5. Claims 8 – 10 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, as applied to claims 1 – 2 and 28 above, and further in view of Kefford.

As per claim 8, Bender discloses routers updating their routing tables ([0042]). While Bender does not appear to explicitly disclose "a first digital storage unit adapted to hold content pertaining to accomplishment of the primary function," it is understood by one of ordinary skill in the art that some sort of memory is utilized to hold said routing tables. Therefore, Bender's routers inherently contain a storage unit.

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]). Rajaram further discloses how the data can be received via a bi-directional interface (Fig. 1, 150), which can be an infrared interface ([0076]) and the received or updated code is stored in the device ([0068]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since wireless connections are an obvious variant of wired connections.

The combination of Bender and Rajaram is considered equivalent to the claimed accessing "the first digital storage unit via the bi-directional interface."

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made without the need to find or create a wired connection (much like walk-up printing).

Neither Bender nor Rajaram appears to explicitly disclose "the communication module comprises an access module adapted to allow access to the first digital storage unit via the bi-directional interface, the access module being controllable via an authorization unit such that the access module blocks access to the first digital storage unit via the bi-directional interface at least until an authorization signal has been generated by the authorization unit with respect to the module."

However, Kefford discloses a network of wireless device communication (Fig. 1 and [0026]). Kefford further discloses utilizing an authorization method for allowing or denying access to requested information (Figs. 4, 5A, and 5B). Kefford's method involves receiving an access request signal in the module (Fig. 4, request 502), receiving an authorization signal from an authorization unit (Fig. 4, authentication result 524 from authentication server 408), the authorization signal identifying the module and

instructing the module to grant or deny access to the portable software carrier unit ([0048], replying to request if authentication result is positive, and [0043], the user attempting to gain access is utilizing a mobile device identified by the authentication server).

Bender, Rajaram, and Kefford are analogous art because they are from the same field of endeavor, which is communication systems utilizing wireless connections to transfer data.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Kefford before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Kefford so that the accessing of information would be provided only after a user and/or device is authenticated.

The motivation for doing so would have been to provide a means for transferring potentially sensitive information without exposing the information to a user who is not entitled to the information (as stated by Kefford in [0004]).

Therefore, it would have been obvious to combine Kefford with Bender and Rajaram to obtain the invention as specified in the instant claim.

As per claim 9, neither Bender nor Rajaram appears to explicitly disclose "the access module comprises an authorization sub-unit adapted to receive a pass phrase from a portable software carrier unit via the bidirectional interface, the access module

blocking access to the first digital storage unit via the bi-directional interface at least until an acceptable pass phrase has been received.”

However, Kefford discloses utilizing user IDs and PINs for authorization (Fig. 3 and [0043]). This PIN is considered equivalent to the claimed pass phrase. Also, Kefford discloses blocking access to the first digital storage unit if the user ID and/or PIN do not match ([0048]).

While Kefford does not appear to explicitly disclose a separate “authorization sub-unit” for receiving said PIN, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a separate comparison unit for each of the user ID and the PIN. This modification of modularizing the authentication server 408 would have been obvious based on the nature of processing devices. In other words, it is not an inventive concept to modify an existing system wherein a single processing device carries out multiple functions to create a system wherein each function is carried out by a separate and distinct processing device. The selection of a single multi-functional processing device or multiple singular function processing devices is merely a design decision based on physical space, diagnostic capabilities, cost of manufacture, etc. For example, a modularized system is more easily diagnosed due to the design. However, a modularized system would usually require more physical space (due to more processing devices) as well as more printed circuit board traces. Therefore, the tradeoffs between a modularized and multifunctional system are merely a design decision.

Bender, Rajaram, and Kefford are analogous art because they are from the same field of endeavor, which is communication systems utilizing wireless connections to transfer data.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Kefford before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Kefford so that the accessing of information would be provided only after a user and/or device is authenticated.

The motivation for doing so would have been to provide a means for transferring potentially sensitive information without exposing the information to a user who is not entitled to the information (as stated by Kefford in [0004]).

Therefore, it would have been obvious to combine Kefford with Bender and Rajaram to obtain the invention as specified in the instant claim.

As per claim 10, neither Bender nor Rajaram appears to explicitly disclose “the authorization signal includes at least one of a unique identifier of the module and an address field which designates a specific module position within the node.”

However, Kefford discloses a network of wireless device communication (Fig. 1 and [0026]). Kefford further discloses utilizing an authorization method for allowing or denying access to requested information (Figs. 4, 5A, and 5B). Kefford's method involves receiving an access request signal in the module (Fig. 4, request 502), receiving an authorization signal from an authorization unit (Fig. 4, authentication result

524 from authentication server 408), the authorization signal identifying the module and instructing the module to grant access to the portable software carrier unit ([0048], replying to request if authentication result is positive, and [0043], the user attempting to gain access is utilizing a mobile device identified by the authentication server).

Also, Kefford discloses utilizing identifiers, such as IP addresses ([0032]) and associating identifiers and mobile devices via tables, lists, arrays, etc. ([0033]).

Therefore, while neither Bender nor Rajaram nor Kefford nor Sabourin appears to explicitly disclose an address field to designate a specific module position within the node, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize Kefford's method in a modularized system (such as Bender's multiple controllers 420 and 430 of modem pool controller 320) so that each module can be assigned an address.

The motivation for doing so would have been to provide a means for transferring potentially sensitive information without exposing the information to a user who is not entitled to the information (as stated by Kefford in [0004]).

Therefore, it would have been obvious to combine Kefford with Bender and Rajaram to obtain the invention as specified in the instant claim.

As per new claim 29, this claim depends from claim 8 and further states "the authorization unit is external to the communication module but included within or connected to the node to which the communication module is removably connected."

As learned from *In Re Japikse* 86 USPQ 70 (CCPA 1950), shifting the location of parts provides no inventive concept if the operation of the system is not modified. Therefore, an authorization unit being moved external to the communication module provides no inventive concept since the authorization unit and communication module (specifically the access module) would continue to communicate in order to allow or block access. As such, the rejection to claim 8 applies to this claim as well. The moving or shifting of the authorization unit would have been obvious to one of ordinary skill in the art.

6. Claims 12 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, further in view of Kefford, as applied to claims 8 – 10 and 29 above, and further in view of Benjamin et al., U.S. Patent 5,668,654 (hereinafter referred to as Benjamin).

As per claim 12, neither Bender nor Rajaram nor Kefford appears to explicitly disclose "the communication module comprises an identification unit adapted to indicate an active data transmission state upon reception of the authorization signal."

However, Benjamin discloses an infrared communications adapter including light emitting diodes to indicate the status of the connection (Fig. 1).

Bender, Rajaram, Kefford, and Benjamin are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, Kefford, and Benjamin before him or

her, to modify the teachings of Bender, Rajaram, and Kefford to include the teachings of Benjamin so that the infrared connection status would be indicated via LEDs.

The motivation for doing so would have been to provide means for indicating status to a user.

Therefore, it would have been obvious to combine Benjamin with Bender, Rajaram, and Kefford to obtain the invention as specified in the instant claim.

As per claims 13 and 14, neither Bender nor Rajaram nor Kefford appears to explicitly disclose “the identification unit comprises a first optical indicator indicative of the bi-directional interface being open for access to the first digital storage unit” nor “the identification unit comprises a second optical indicator indicative of data being transmitted over the bi-directional interface.”

However, Benjamin discloses an infrared communications adapter including light emitting diodes to indicate the status of the connection (Fig. 1).

Bender, Rajaram, Kefford, and Benjamin are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, Kefford, and Benjamin before him or her, to modify the teachings of Bender, Rajaram, and Kefford to include the teachings of Benjamin so that the infrared connection status would be indicated via LEDs.

The motivation for doing so would have been to provide means for indicating status to a user.

Therefore, it would have been obvious to combine Benjamin with Bender, Rajaram, and Kefford to obtain the invention as specified in the instant claim.

7. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, further in view of Kefford, and further in view of Sabourin, as applied to claims 15 – 18, 22, 23, 25, and 27 above, and further in view of Rose et al., U.S. Patent Application 2003/0120925 (hereinafter referred to as Rose).

As per claim 19, neither Bender nor Rajaram nor Kefford nor Sabourin appears to explicitly disclose “the pass phrase includes a static segment.”

However, Rose discloses utilizing a stored key identifier ([0014]).

Bender, Rajaram, Kefford, Sabourin, and Rose are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, Kefford, Sabourin, and Rose before him or her, to modify the teachings of Bender, Rajaram, Kefford, and Sabourin to include the teachings of Rose so that the infrared connection would be allowed only after authentication.

The motivation for doing so would have been to provide a level of security with a simple method of authentication (as described by Rose in [0013]).

Therefore, it would have been obvious to combine Rose with Bender, Rajaram, Kefford, and Sabourin to obtain the invention as specified in the instant claim.

As per claim 20, neither Bender nor Rajaram nor Kefford nor Sabourin appears to explicitly disclose "the pass phrase includes a dynamic segment, the method comprising calculating the dynamic segment in the portable software carrier unit and a central resource respectively."

However, Rose discloses a random number generator 216 used in the authentication process (Fig. 2).

Bender, Rajaram, Kefford, Sabourin, and Rose are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, Kefford, Sabourin, and Rose before him or her, to modify the teachings of Bender, Rajaram, Kefford, and Sabourin to include the teachings of Rose so that the infrared connection would be allowed only after authentication of a pass phrase that includes a dynamic segment.

The motivation for doing so would have been to provide a further level of security with a simple method of authentication (as described by Rose in [0013]).

Therefore, it would have been obvious to combine Rose with Bender, Rajaram, Kefford, and Sabourin to obtain the invention as specified in the instant claim.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, further in view of Kefford, and further in view of Sabourin, as applied to claims 15 – 18, 22, 23, 25, and 27 above, and further in view of Fernandes et al., U.S. Patent Application 2003/0218066 (hereinafter referred to as Fernandes).

As per claim 21, neither Bender nor Rajaram nor Kefford nor Sabourin appears to explicitly disclose “the pass phrase includes a cyclic redundancy checksum, the cyclic redundancy checksum being based on data which is to update the contents of a first digital storage in the module.”

However, Fernandes discloses utilizing a checksum to validate infrared authentication data ([0090]).

Bender, Rajaram, Kefford, Sabourin, and Fernandes are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, Kefford, Sabourin, and Fernandes before him or her, to modify the teachings of Bender, Rajaram, Kefford, and Sabourin to include the teachings of Fernandes so that the infrared authentication data would include a checksum.

The motivation for doing so would have been to provide a means for validating that the pass phrase was received as it was sent.

Therefore, it would have been obvious to combine Fernandes with Bender, Rajaram, Kefford, and Sabourin to obtain the invention as specified in the instant claim.

Claims 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, further in view of Kefford, and further in view of Sabourin, as applied to claims 15 – 18, 22, 23, 25, and 27 above, and further in view of Picazo.

As per claim 26, as stated above, Bender does not appear to explicitly disclose a bi-directional optical interface.

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since wireless connections are an obvious variant of wired connections.

Further, neither Bender nor Rajaram nor Kefford nor Sabourin appears to explicitly disclose "receiving a request for status information via the bi-directional optical interface; and transmitting a status report on basis of the request, the status report including data pertaining to at least one parameter of the primary function."

However, Picazo discloses routers including status registers as well as routers supplying status information upon request from network management processes (column 2 line 54 – column 3 line 5).

Bender, Rajaram, Kefford, and Sabourin are analogous art because they are from the same field of endeavor, which is networked communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, Kefford, Sabourin, and Picazo before him or her, to modify the teachings of Bender, Rajaram, Kefford, and Sabourin to include the teachings of Picazo so that the status of the router would be available through an infrared connection.

The motivation for doing so would have been to provide a means for learning a router's status, therefore providing information pertaining to when to start an update of routing information.

Therefore, it would have been obvious to combine Picazo with Bender, Rajaram, Kefford, and Sabourin to obtain the invention as specified in the instant claim.

Allowable Subject Matter

9. **Claim 24** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed April 29, 2010 have been fully considered but they are not persuasive.

Applicant argues, in section A starting on page 11, that there is no benefit, advantage, or motivation to combine Bender and Rajaram.

The examiner disagrees. First, at the time of the invention, it was known to one of ordinary skill in the art that wireless connections were a feasible alternative to practically any and all wired connections. As seen in Bender and Rajaram, wireless devices and wireless networks were known at the time of the invention. Further, methods of walk-up interaction with stationary devices were known (as evidenced by US 6,892,251). Secondly, both wired and wireless interfaces have their pros and cons. For example, wired interfaces are usually capable of faster speeds, while wireless interfaces provide a user with a less restrictive physical location for interaction with other devices. However, both wired and wireless interfaces are capable of transmitting data between devices. Therefore, wireless connections are an obvious variant to wired connections and vice versa. The selection of which interface to use is a design decision based on the pros and cons and the design constraints. Since Bender discloses

updating routing tables ([0042]), it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize either a wired or wireless interface in order to transmit and/or receive messages for updating those tables. Further, Rajaram discloses a method for wirelessly transmitting a software update to a device.

Further, applicant points to paragraph [0005] of Rajaram as disclosing a close range infrared interface for updating software on a phone being inconvenient when compared to an airlink interface. Paragraphs [0005] - [0009] do not mention infrared or close range interfaces at all. What is described in this section is a previous method of updating, which required the device to be sent to a service facility. Even though applicants have misread this section of Rajaram, the examiner agrees that infrared or close range interfaces are less convenient when compared to an airlink interface. The same logic also follows that a wired interface, requiring a user to find a device connected to the router (or create a connection to the router) in order to transmit messages for updating the function of the router, is less convenient than both wireless methods (airlink and infrared or close range). Therefore, a motivation exists for combining Bender and Rajaram so that a wireless approach is utilized instead of a wired approach when updating a router. This motivation is to provide a level of convenience to the user. For example, it is less user friendly to force a user to find a device that is hard-wired to the router.

Applicant argues, in section B starting on page 13, that the previous arguments to claim 1 apply to claim 15 as well.

Therefore, the above response applies here as well.

Applicant argues, in section B starting on page 13, that previously cited art does not teach the amended claim 15.

Since the claim has been amended, this argument is moot in view of the new grounds of rejection.

Applicant argues, in section C on page 14, that the previous arguments to claim 1 apply to claim 28 as well.

Therefore, the above response applies here as well.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Application 2004/0066777 discloses updating routing tables.

U.S. Patent 6,763,007 discloses updating routing tables.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEVEN G. SNYDER whose telephone number is (571)270-1971. The examiner can normally be reached on Mon. - Thurs. 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Henry Tsai can be reached on (571) 272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. G. S./

/Henry W.H. Tsai/
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